

Soil/Land Use Station PRACTICE TEST

- Use the location map, information sign, and pictures of the soil profile and the area surrounding the soil pit (located after the test questions) to select your answers for Parts A and B.
- In Part C (Soil and Site Interpretations) use your answers from Parts A and B and the information given to assess the site and soil suitability for Agricultural and Urban uses.
- You may need to adjust your monitor brightness to best see the soil colors in the photos. We do realize that there will be some differences in how the photos appear on different screens and will allow for a range of answers where appropriate.
- Use the yellow tape measure in the soil profile photo for all depth and thickness measurements.
- Assume what you can see at the bottom of the soil profile (approximately 41 inches) extends to 72 inches.
- There are no surface stones or rock outcrops at this site. The surface horizon has no rock fragments.

Part A – Landscape Features

Use the location map, information sign, and pictures of the soil profile and the area surrounding the soil pit to select your answers.

1. Position

- Upland
- Upland depression or drainageway
- Terrace
- Floodplain

2. Parent Material

- Residual
- Colluvium
- Recent alluvium
- Old alluvium
- Coastal plain sediments

3. Slope Characteristics

Slope Class	Piedmont-Appalachian	Coastal Plain	Letter Designation
<input type="checkbox"/> Nearly level	0-3%	0-2%	A
<input type="checkbox"/> Gently sloping	3-8%	2-5%	B
<input type="checkbox"/> Strongly sloping	8-15%	5-10%	C
<input type="checkbox"/> Moderately steep	15-25%	10-15%	D
<input type="checkbox"/> Steep	25-50%	15-25%	E
<input type="checkbox"/> Very steep	50+%	25+%	F

Part B – Soil Profile Features

Use the pictures from the soil pit and reference information to select your answers.

4. Check the major soil horizons visible in this profile (check all that are present):

- O
- A
- E
- B
- C
- R

5. What is the current topsoil thickness, O and/or A horizon(s)?

_____ inches

6. Soil Color

a. Topsoil – A Horizon

- Brown or dark brown
- Reddish brown
- Gray or grayish brown
- Black

b. Subsoil and Substratum – B and/or C horizon

- Yellowish brown or red, no redox depletions (gray colors due to wetness)
- Yellowish brown or red, some redox depletions (gray colors due to wetness)
- Dominantly gray, with redox concentrations (brownish red colors due to wetness)

7. Soil Drainage

a. Depth to Redox Depletions

- Directly under a thick black colored surface
- 0 to less than 10 inches
- 10 to less than 20 inches
- 20 to less than 40 inches
- 40 to less than 72 inches
- 72 inches or greater

b. Natural soil drainage class

- Excessively well drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained

8. Soil Depth

a. Effective rooting depth

- Very shallow (less than 10 inches)
- Shallow (10 to less than 20 inches)
- Moderately deep (20 to less than 40 inches)
- Deep (40 to less than 60 inches)
- Very deep (60 inches or greater)

b. Depth to bedrock

- Very shallow (less than 10 inches)
- Shallow (10 to less than 20 inches)
- Moderately deep (20 to less than 40 inches)
- Deep (40 to less than 60 inches)
- Very deep (60 inches or greater)

9. Topsoil Texture (A horizon)

- Coarse – sand, loamy sand
- Moderately coarse – sandy loam
- Medium – loam, silt loam, sandy clay loam
- Moderately fine – silty clay loam, clay loam
- Fine – clay, silty clay, sandy clay

10. Topsoil Permeability (A horizon)

- Rapid, >6.0 in/hr (coarse texture)
- Moderately rapid, 2.0-6.0 in/hr (moderately coarse texture)
- Moderate, 0.6-2.0 in/hr (medium texture)
- Moderately slow, 0.2-0.6 in/hr (moderately fine texture)
- Slow, <0.2 in/hr (fine texture)

Part C – Soil and Site Interpretations

Use your determinations of the Landscape and Soil Profile Features (Parts A and B) to answer questions about soil and site interpretations.

Agricultural Suitability

11. Past Soil Erosion

Past Soil Erosion = Original topsoil thickness (from information sign) minus current topsoil thickness

- Slight (less than 3 inches of the original soil lost)
- Moderate (3-8 inches of the original soil lost)
- Severe (greater than 8 inches of the original soil lost)

12. Major limiting factors (check all that apply):

- None
- Flooding or ponding (Occasional or Frequent)
- Slope (Gently sloping or greater)
- Past erosion (Severe)
- Effective rooting depth (less than 40 inches deep)
- Drainage (less than 40 inches to redox depletions, gray colors due to wetness)
- Coarse textures (Topsoil and Subsoil)
- Very stony or Rock outcrop

13. Land Capability Class

- I No limiting factors and nearly level
- II Gently sloping, or
Moderately well drained, or
Moderately deep
- III Strongly sloping, or
Somewhat poorly drained, or
Poorly drained, or
Shallow, or
Coarse textures
- IV Moderately steep, or
Very poorly drained, or
Occasionally flooded
- V Nearly level and very stony surface or rock outcrop, or
frequently flooded
- VI Steep, or
Gently sloping through steep and very stony surface or rock outcrop
- VII Very steep, or
Very shallow
- VIII Swamp, tidal marsh, coastal beach, areas with >90% rock outcrop, or urban land

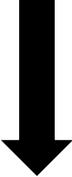
14. Is this Prime Farmland, i.e., Land Capability Class I or II?

- Yes
- No

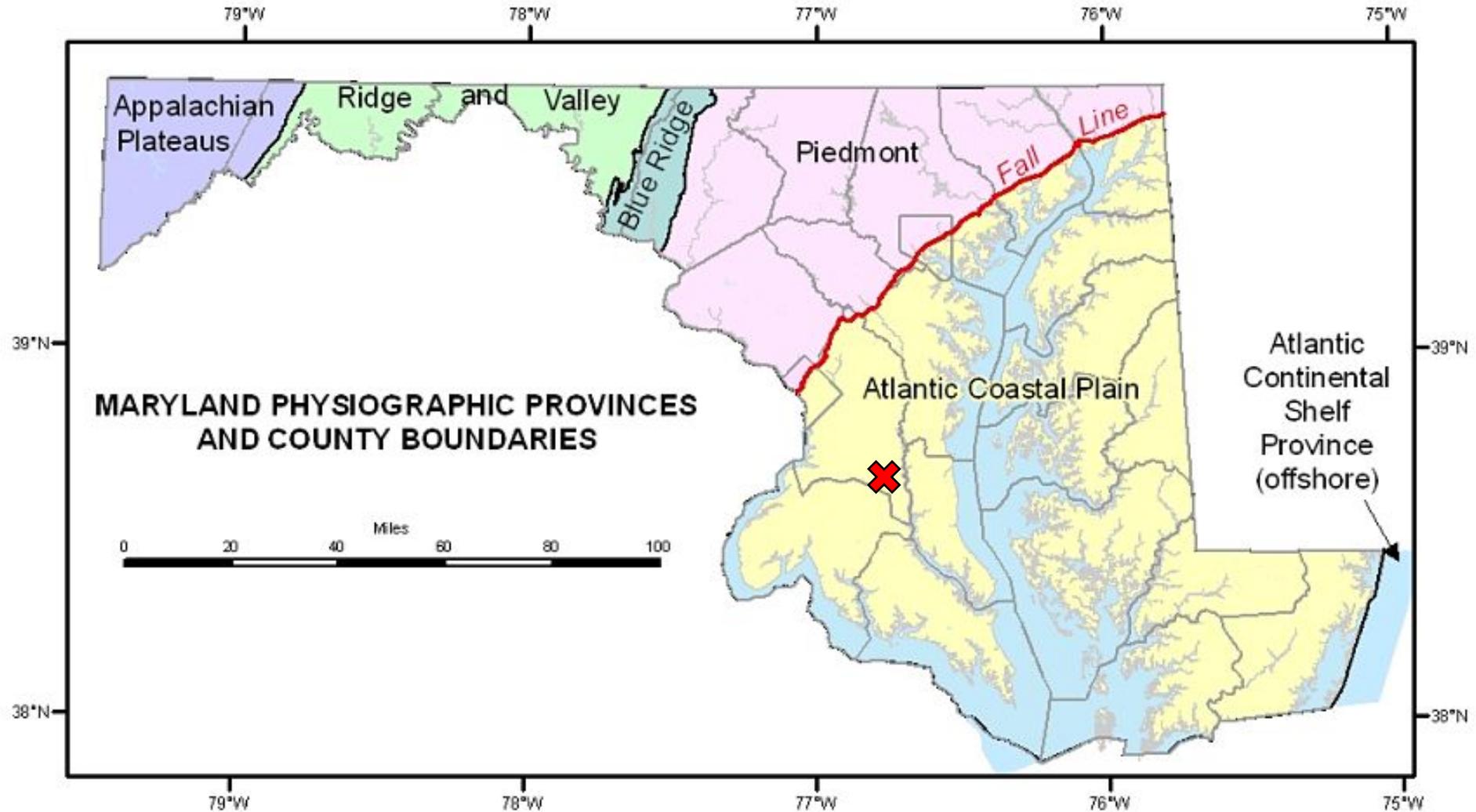
Urban Suitability

15. Suitability for Lawns:

Check the appropriate suitability rating based on the most limiting soil property:

More Limiting 	Soil Properties					Suitability: (check one)
	Slope	Topsoil Texture	Rock Fragments in/on Surface	Past Erosion	Depth to Redox Depletions	
	Nearly level, gently sloping	Moderately coarse, Medium	< 15% gravel	Slight	> 24 inches	<input type="checkbox"/> Slight
	Strongly sloping	Moderately Fine, Coarse	15-35% gravel	Moderate	12-24 inches	<input type="checkbox"/> Moderate
	Moderately steep to very steep	Fine	> 35% gravel, or Very stony, or Rock outcrop	Severe	< 12 inches	<input type="checkbox"/> Severe

Site is located in Prince George's County, MD
(approximate location marked by the "x")



INFORMATION FOR CONTEST PIT

Crop to be grown	pH	Magnesium Mg	Phosphate P2O5	Potash K2O
Soybeans	5.9	M	H	L

VL = Very Low
L = Low
M = Medium
H = High
VH = Very High

Size of area: 2 acres
Flooding or Ponding frequency: None
Original topsoil thickness: 11 inches
Other: No root restrictive layers to 72 inches There are no surface stones or rock outcrops at the site Surface horizon has 0% rock fragments

Note: For interpretation purposes, if no redox depletions (gray colors due to wetness) are observable in the soil profile it is assumed that none exist above 72".



Slope Stake
(upslope position)

Slope Stake
(downslope position)

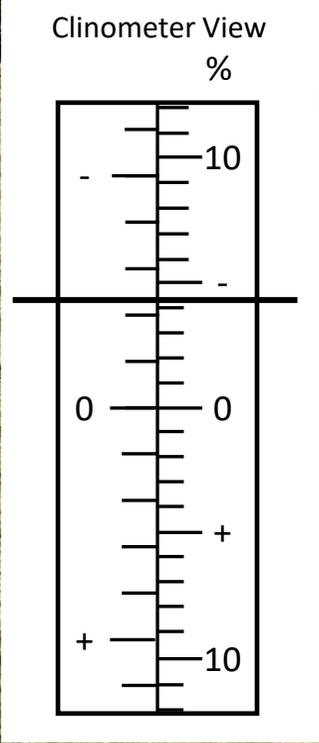
Soil Pit



Slope Stake
(downslope position)



Slope Stake
(upslope position)





Topsoil Texture



Soil can be formed into a stable ball.
The soil can be made into ribbons that are 1-1.75 inches long.
The soil has some grittiness but is not dominantly gritty or smooth.



For Reference:

GUIDE FOR ESTIMATING SOIL TEXTURE BY FEEL

